Bath LED's in Taiwan

Professor Wang-Nang Wang, of the Physics Department at the University of Bath, UK is among the leading researchers into solid state lighting for five years, has been talking about "Future Trends in Lighting and Data Storage." With his team at the University he has developed a new way of making the LEDs more cheaply and efficiently, using a £400,000 grant from the Engineering and Physical Sciences Research Council and the Department of Trade and Industry for the work.

Using GaN on sapphire the work involves LED resonance tunnelling which improves the efficiency by 20%. Already, some 30m LEDs based on this resonance tunnelling structure by Professor Wang's team are being produced commercially each month by Arima Optoelectronics Co, in Taiwan. These have specialist uses in traffic lights, large panel full colour displays and the back-lighting for mobile phones. As their cost falls, their application could spread.

Professor Wang also outlined his team's role in producing a new generation of Blu-ray DVDs.

Firing up the blue-violet laser diode

Nichia Corp and Sony Corp have agreed the cross license of Blue-Violet Laser Diode (BVLD) related patents for optical disc use. Both had agreed to collaborate in 2002 on the development of BVLD as well as building-up an environment to share the usage of the related technologies which they possess, to accelerate the growing demand of BVLD. Nichia and Sony have also collaborated on the BVLD development for optical disc record.playback use and enable joint usage of all related patents on BVLD, with no time limit, in the field of the optical disc, giving both an 800 patent applications portfolio.

BVLD, a 405nm wavelength semiconductor laser, which will be vital for Blu-ray disc system enabling digital recording of high-definition (HD) contents (movies) in consumer use and professional disc system XDCAM. It is the key device in the HD era, in various occasions where high quality images/movies are the key in HD contents creation in Digital HD broadcasting and recording/play-back in consumer use.

Through the cross-license, in addition to Nichia, Sony will also mass-produce and be the supplier of BVLD, building-up a stable environment for the supply of BVLD for optical disc use, required for Blu-ray disc system market which is expected increase significantly. The technologies convergence by both companies should achieve cost-down, improving production efficiency and enhancing the production design/manufacturing of higher-performance/high-level-output BVLD.

Join developments so far have already been implemented in mass production by both companies, and mass production shipment by Nichia and partial shipment of evaluation samples to other companies by Sony are under process.

Universal IR remote control

Agilent Technologies Inc has a compact, low-cost infrared (IR) transceiver that enables mobile phones to function as universal IR remote control devices for televisions, VCRs, DVDs and other home appliances. The new transceiver offers a remote control distance of up to seven meters (approximately 23 feet) with an IrDA(Infrared Data Association) link distance of up to 50 cm (approximately 20 inches) and compatibility with Agilent' s universal remote control software.